

Topic: Translating figures in coordinate space

Question: When a figure is translated in a coordinate plane, the resulting figure...

Answer choices:

- A keeps the same shape.
- B keeps the same size.
- C keeps the same orientation.
- D keeps all three of these.

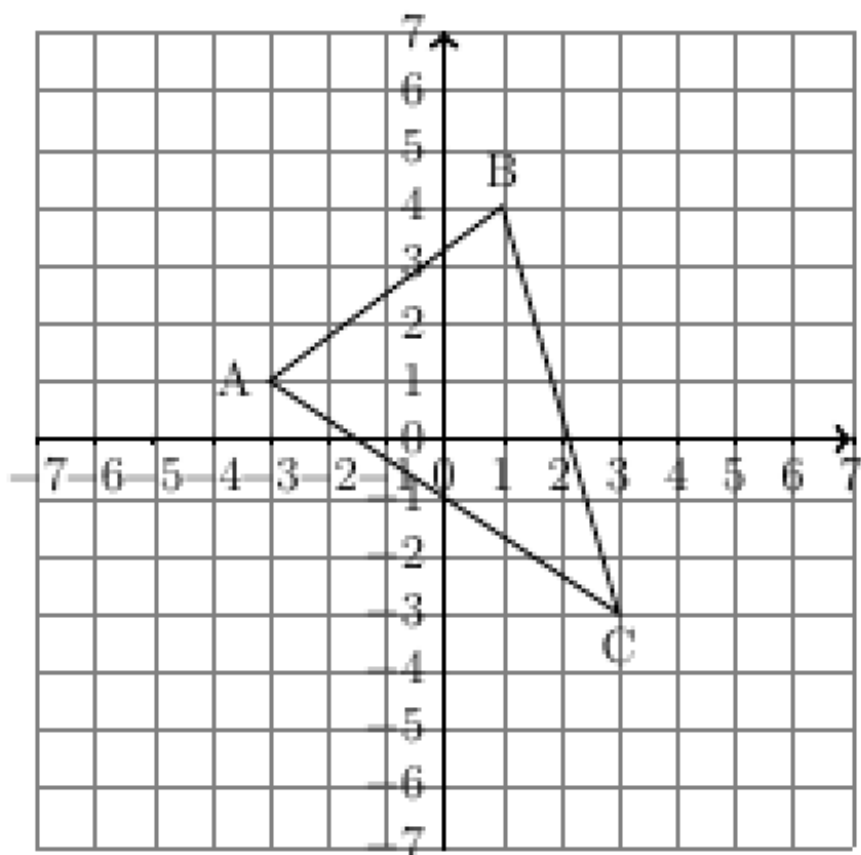
Solution: D

A translation can be thought of as a slide with *no rotation*. The slide won't change the shape or size of the figure, and with no rotation, the orientation won't change either.

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Question: What will be the new point?

If $\triangle ABC$ undergoes the translation described by $T(x, y) = (x + 5, y)$, what point will be the new point B ?



Answer choices:

- A (6,4)
- B (1,9)
- C (5,4)
- D (-4,4)

Solution: A

The translation is

$$T(x, y) = (x + 5, y)$$

The $x + 5$ tells you that in the new set of points, each x value will now be 5 more than it was in the old set of points.

In other words, the figure will now be located 5 units to the right of the old figure. Values of y stay the same.

The original point B was $(1, 4)$, so the new point B (often named B'), will be

$$(1 + 5, 4)$$

$$(6, 4)$$